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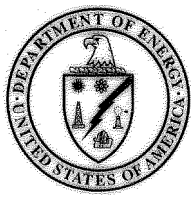
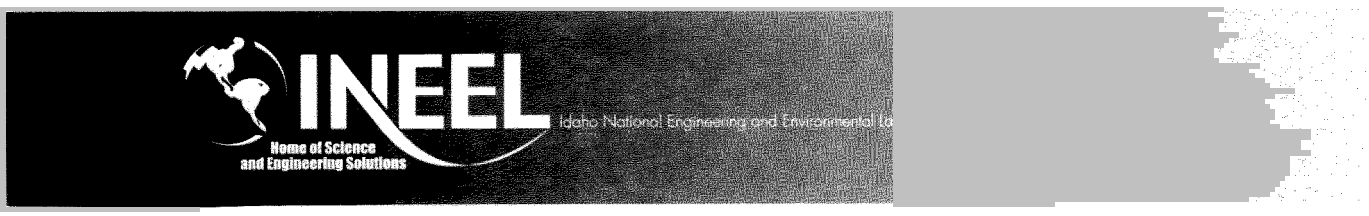
Revision 0
May 2002



U.S. Department of Energy
Idaho Operations Office

INEEL CERCLA Disposal Facility Construction Waste Management Plan



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INEEL CERCLA Disposal Facility Construction Waste Management Plan

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Prepared for the
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ABSTRACT

The Waste Area Group 3 Operable Unit 3-13 Record of Decision designates the INEEL CERCLA Disposal Facility as the on-Site disposal facility for Comprehensive Environmental Response, Compensation, and Liability Act-generated wastes within the Idaho National Engineering and Environmental Laboratory boundaries. This waste management plan applies to the construction phase of the INEEL CERCLA Disposal Facility landfill and evaporation pond, and addresses the regulatory considerations and waste management assumptions pertinent to the anticipated construction waste streams.

A previous revision of this waste management plan created a strategy for managing wastes generated from early excavation and construction activities (Stage I). This document describes management strategies in connection with construction activities to complete the INEEL CERCLA Disposal Facility landfill and evaporation pond.

Waste management associated with the operations of the INEEL CERCLA Disposal Facility Complex is not a part of this plan. Rather, a stand-alone waste management plan will be prepared for the INEEL CERCLA Disposal Facility Complex as part of the ICDF Complex Remedial Action Work Plan.

CONTENTS

ACRONYMS

AOC	area of contamination
ARAR	applicable or relevant and appropriate requirement
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFA	Central Facilities Area
CFR	Code of Federal Regulations
CIW	conditional industrial waste
COCA	Consent Order and Compliance Agreement
CPP	Chemical Processing Plant
CSA	CERCLA storage area
DOE	Department of Energy
DOE-ID	Department of Energy Idaho Operations Office
DOT	Department of Transportation
EPA	Environmental Protection Agency
FFA/CO	Federal Facilities Agreement/Consent Order
FR	Federal Register
HW	hazardous waste
HWD	hazardous waste determination
ICDF	INEEL CERCLA Disposal Facility
IDAPA	Idaho Administrative Procedures Act
INEEL	Idaho National Engineering and Environmental Laboratory
INTEC	Idaho Nuclear Technology and Engineering Center
IW	industrial wastes
LLW	low-level waste
MCL	maximum contaminant level
MLLW	mixed low-level waste
NPL	National Priorities List

OU	operable unit
PCB	polychlorinated biphenyl
PPE	personal protective equipment
RCRA	Resource Conservation and Recovery Act
RD/RA	remedial design/remedial action
ROD	Record of Decision
SRPA	Snake River Plain Aquifer
SOW	scope of work
SSA	Staging and Storage Area
SSSTF	Staging, Storage, Sizing, and Treatment Facility
WAC	Waste Acceptance Criteria
WAG	waste area group
WD	waste determination
WGS	Waste Generation Services
WMP	waste management plan

INEEL CERCLA Disposal Facility Construction Waste Management Plan

1. INTRODUCTION

This waste management plan (WMP) applies to the construction phase of the INEEL CERCLA Disposal Facility (ICDF), evaporation pond, and support facilities. The Waste Area Group (WAG) 3 Operable Unit (OU) 3-13 Record of Decision (ROD) designates the ICDF as the on-Site disposal facility for Comprehensive Environmental Response, Compensation, and Liability Act- (CERCLA) generated wastes within the Idaho National Engineering and Environmental Laboratory (INEEL) boundaries.

This plan addresses the full-scale construction phase (Stage II) of the ICDF landfill and evaporation pond. A previous version of this WMP addressed the early excavation construction phase (Stage I), and the approach for waste management for those activities was documented therein. Waste management associated with the construction of the Staging, Storage, Sizing, and Treatment Facility (SSSTF), and operations of the ICDF Complex are not part of this plan. A stand-alone WMP will be prepared for the entire ICDF Complex.

The excavation and construction of the ICDF Complex follows a two-stage plan:

1. Stage I—Early Dig: The early dig activities have been completed, including the grading of the ICDF landfill and evaporation pond sites; the construction of the test pad and evaporation pond, and the excavation of Cell 1 of the ICDF landfill. These early dig activities will not be reviewed in this WMP.

2. Stage II—ICDF Landfill and Evaporation Pond Construction: Full-scale construction of the ICDF landfill, evaporation pond, test pad, and crest pad buildings. The construction area is designated as a clean construction area; hazardous waste streams are not expected to be generated from construction activities. Detection monitoring wells will be drilled as a concurrent activity to support the ICDF Complex Groundwater Monitoring Plan (DOE-ID 2002a). This WMP discusses management activities associated with Stage II construction and the concurrent drilling activities.

Both stages support accomplishing the objectives of the OU 3-13 ROD (DOE-ID 1999a). The work will proceed as described in the Remedial Design (RD)/Remedial Action (RA) Scope of Work (SOW) for OU 3-13 (DOE-ID 2000) and the Remedial Design/Construction Work Plan for OU 3-13 (DOE-ID 2002b).

1.1 Purpose and Scope

The purpose of this WMP is to function as a management planning tool for identifying and managing the waste streams associated with Stage II construction. An earlier revision to this WMP was developed for early excavation and construction phases (Stage I). This WMP is being developed in conjunction with Title II design activities to support the waste management necessary for full-scale construction activities (Stage II). This plan does not address SSSTF construction or ICDF Complex operations.

This revision to the WMP addresses waste management of wastes generated during Stage II ICDF landfill and evaporation pond construction and concurrent drilling activities. In addition, this WMP supports waste management planning requirements found in Department of Energy (DOE) orders and fulfills scope requirements of the RD/RA SOW (DOE-ID 2000).

2. SITE BACKGROUND

The INEEL is a government-owned reservation managed by the DOE. The eastern boundary of the INEEL is located 52 km (32 mi) west of Idaho Falls, Idaho. The INEEL site occupies approximately 2,305 km^2 (890 mi^2) of the northwestern portion of the eastern Snake River Plain in southeast Idaho.

2.1 Site Description

The Idaho Nuclear Technology and Engineering Center (INTEC) is located in the south-central portion of the INEEL, as shown in Figure 2-1. The INTEC is a part of WAG 3, which is one of the 10 INEEL WAGs identified in the Federal Facilities Agreement/Consent Order (FFA/CO) by the Department of Energy Idaho Operations Office (DOE-ID), the Environmental Protection Agency (EPA), and the Idaho Department of Environmental Quality. OU 3-13 is listed as the "WAG 3 Comprehensive Remedial Investigation/Feasibility Study," in the FFA/CO (DOE-ID 1991).

The WAG 3 release sites were grouped according to common contaminant sources. Group 3, referred to as "other surface soils," contains the construction of the ICDF landfill and evaporation pond, which will be located within the WAG 3 area of contamination (AOC).

2.2 Site History

A Consent Order and Compliance Agreement (COCA) was entered into between the DOE and the EPA pursuant to the Resource Conservation and Recovery Act (RCRA) Section 3008(h) in August 1987. The COCA required DOE to conduct an initial assessment and screening of all solid waste and/or hazardous waste disposal units at the INEEL and set up a process for conducting any necessary corrective actions. On July 14, 1989, the INEEL was proposed for listing on the National Priorities List (NPL) (54 FR 29820). The listing was proposed by the EPA under the authorities granted to the EPA by the 1980 CERCLA, as amended by the Superfund Amendments and Reauthorization Act of 1986. The final rule that listed the INEEL on the NPL was published on November 21, 1989 (54 FR 48184).

2.3 Existing Information and Contaminants of Concern

Within the WAG 3 AOC, the ICDF landfill and evaporation pond is situated within Chemical Processing Plant-95 (wind-blown contamination plume), which was evaluated in the OU 3-13 Remedial Investigation/Baseline Risk Assessment (DOE-ID 1997). This area was determined to pose no unacceptable risks to site workers. During Stage I activities, "hot spots" of radiologically contaminated soil (<23 p/Ci) were discovered. The soil was removed and stockpiled, and then sprayed with tackifier compounds. The entire stockpile area has been fenced; the stockpile will be held for re-use as fill materials in the ICDF landfill in accordance with the WAG 3 Institutional Control Plan (DOE-ID 2002c).

Monitoring and remediation of the subsurface is currently being conducted for WAG 3 beneath the INTEC and the ICDF Complex. Data from these monitoring wells have shown that contaminants and radionuclides are present in the Snake River Plain Aquifer (SRPA) and perched water zones from existing sources. It is noted that contaminants and radionuclides may be present in aqueous materials from the saturated zones beneath the ICDF Complex.

As part of Group 3 remediation, a groundwater monitoring plan has been developed to establish present contaminant levels in the SRPA and perched water zones, and to detect potential releases from the ICDF landfill cells or evaporation pond. The basic objective of the groundwater monitoring plan is to determine whether a release of contaminants has occurred from the ICDF landfill cells or evaporation

ponds. Detection monitoring wells will be drilled concurrently with construction activities to implement the agency-approved groundwater monitoring plan. These wells are also designed to perform detection monitoring before operation of the ICDF Complex begins.

Waste and contaminants of concern that will be accepted for disposal within the completed ICDF landfill and evaporation pond are discussed in the respective Waste Acceptance Criteria (WAC) documents (DOE-ID 2002d and 2002e) and not addressed as part of this WMP.

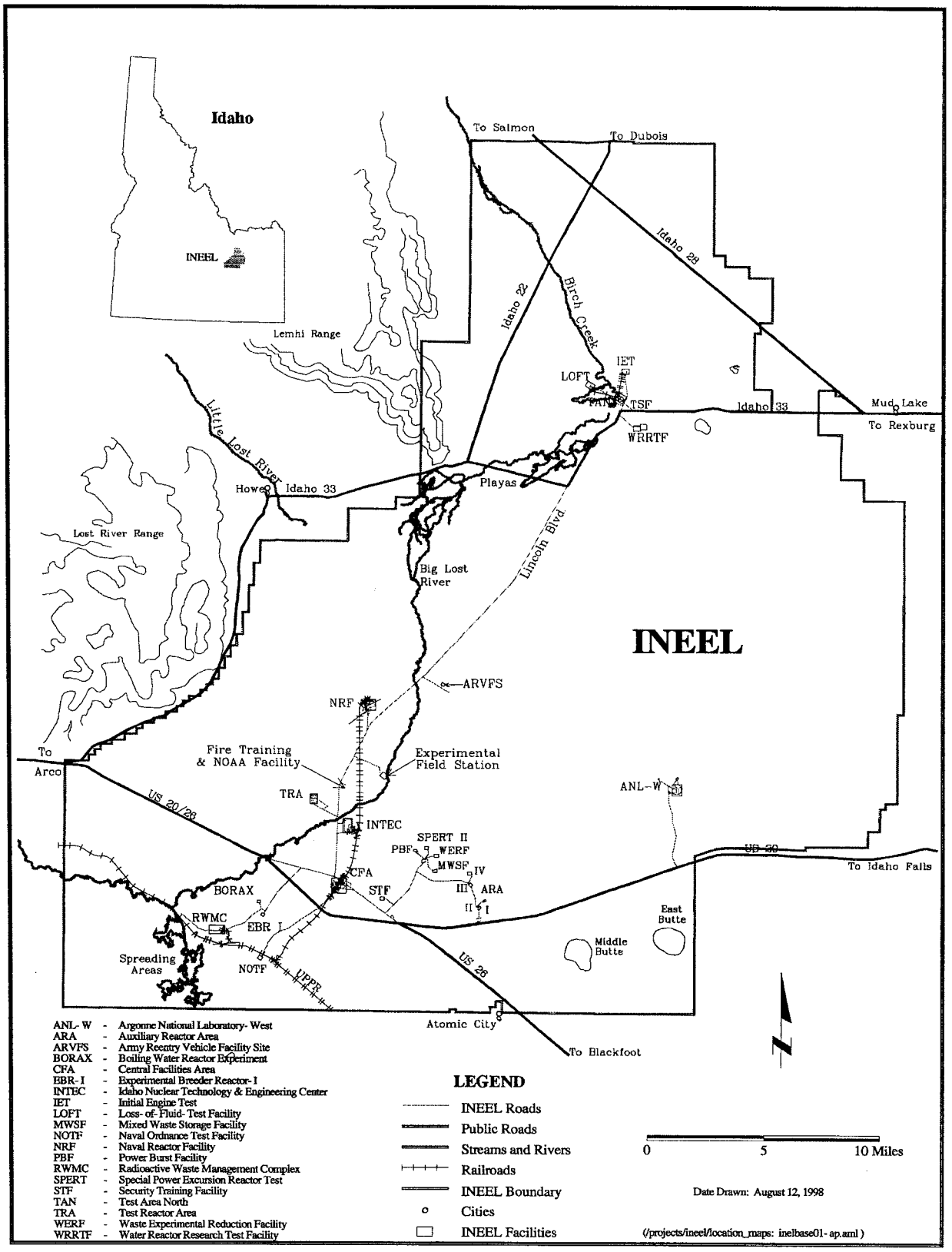

Figure 2-1. Idaho National Engineering and Environmental Laboratory location map.

3. WASTE GENERATION

This section identifies the assumptions that are associated with the anticipated waste streams, provides a preliminary description of the types of wastes that are expected, and, to the extent possible, presents a preliminary estimate of waste stream volumes.

3.1 Waste Stream Assumptions

The following assumptions apply to ICDF waste streams associated with construction and concurrent drilling activities:

- All waste streams are considered CERCLA-generated wastes and will be managed accordingly, if they are generated through activities that are being conducted under the WAG 3 ROD, prepared pursuant to CERCLA.

- The majority of the anticipated construction waste streams are expected to be nonhazardous nonradioactive wastes, although some hazardous, mixed, and radioactive wastes may be generated during construction and concurrent drilling activities directly related to implementation of the FFA/CO-approved remedial action.

- In the unlikely event that wastes will require off-Site disposal, wastes will be disposed in accordance with the Off-Site Rule, 40 CFR 300.440. The drilling subcontractor will manage any off-Site disposal of wastes generated during drilling activities as outlined in the groundwater monitoring plan and this WMP.

- This construction area is designated as a clean construction area; hazardous waste streams are not expected to be generated from construction activities. The majority of the construction waste streams will generally meet the definition of industrial wastes (IW) (i.e., nonhazardous solid wastes).

- Surface drill cuttings from the non-saturated zone will be nonradioactive and nonhazardous.

- The ultimate disposal site for hazardous, mixed, or radioactive waste encountered during construction activities is the ICDF landfill. If such waste is encountered, it will be placed in CERCLA-labeled containers and held pending a hazardous waste determination (HWD) by Waste Generation Services (WGS). The waste will be held in the controlled work zone or in a CERCLA storage area (CSA). Before construction close-out, pending disposal in the ICDF landfill, these wastes will be transported to the Staging and Storage Area (SSA). The SSA is located at INTEC and is the designated temporary storage site for all hazardous, mixed, and/or radioactive CERCLA wastes generated from the present until such time as the ICDF Complex is in operation.

- All container storage areas and containers for collection of CERCLA-derived waste will be clearly labeled as containing "CERCLA WASTE" and will identify waste type and characteristics to allow for safe management. For example, in accordance with Idaho Administrative Procedures Act (IDAPA) 58.01.05.009, wastes will generally be segregated according to waste category and type. IW will be identified and placed in containers for storage and disposal.

- Liquid, hazardous, radioactive-contaminated, or mixed waste, depending on the results of a HWD, will go to interim storage at the SSA holding tank system until final disposition in the ICDF evaporation pond. Drilling activities will be independent but concurrent with the construction

activities. The drilling subcontractor will communicate with construction managers regarding drilling activities.

- The drilling subcontractor will manage cuttings and wastes associated with drilling activities as described in this WMP.

- The disposition of unexpected liquid nonhazardous waste will be determined on a case-by-case basis, based on a HWD.

- Polychlorinated biphenyl (PCB) waste is not expected to be generated during construction activities. If found, the disposition will be case-by-case, based on a waste profile analysis.

Details regarding waste stream segregation will be incorporated into operational procedures associated with both the construction operations and the project operations and management plans.

3.2 Waste Identification

The identification of waste streams in this WMP is based only on the Stage II construction and drilling activities associated with the ICDF Complex. Table 3-1 summarizes the wastes anticipated to be generated from the various activities associated with the Stage II construction and installation of detection and monitoring wells. The major anticipated waste type associated with these activities is IW. Although considered unlikely to be generated during construction activities, potential hazardous waste streams are also identified, e.g., in the event of a spill.

Mixed low-level wastes (MLLW) and low-level wastes (LLW) at significant levels are not expected to be present in the surface soils (above saturated zones) at the construction site, based on baseline radiological conditions known to be present in the surface soils of the construction area. The non-saturated soils (above saturated zones) are likewise presumed to be nonhazardous and nonradioactive. However, well drilling activities associated with the installation of groundwater monitoring wells may generate MLLW aqueous wastes from the saturated zones during well installation, development, purging, and sampling activities. The management of these wastes is briefly discussed in Section 4.3. The management of wastes associated with drilling and sampling activities is discussed in Section 4.4.

Waste streams not specified in Table 3-1 will be managed in accordance with Section 4.3.3.

Table 3-1. Waste stream summary table.

Waste Stream Description	Expected Type(s)[a]	Storage Location[b]	Planned Disposal[c]	Estimated Volume ft^3
Personal protection equipment (PPE) used in the performance of remedial actions in the Chemical Processing Plant (CPP) 95 and ICDF Complex area	Assumed CERCLA rad or MLLW contaminated	SSA	ICDF landfill or Radioactive Waste Management Complex based on suitability determination.	NE[d]
PPE used in the performance of borrow pit soils retrieval for ICDF remedial action implementation	Assumed CERCLA IW	CERCLA IW accumulation area	ICDF landfill or CFA landfill based on suitability determination.	NE[d]
Miscellaneous maintenance waste from equipment decontamination necessary for implementing the Stage II full-scale ICDF landfill and evaporation pond construction (primarily discarded rags/cloths/plastic)[e]	Assumed CERCLA hazardous waste(HW) (until HW determination made)	SSA	ICDF landfill.	NE[d]
Routine IW (office trash, poly bags, etc.) generated during full-scale ICDF construction activities	CERCLA IW (process knowledge nonhazardous)	CERCLA IW[c] accumulation area	INEEL landfill complex at CFA.	
Spill wastes/soil contaminated by broken lines, hydraulic fuel, antifreeze, diesel fuel, oil, hydrocarbon-based fluids, etc. generated during full-scale ICDF construction activities	Assumed CERCLA IW (pending completion of a waste profile determination)	CERCLA IW accumulation area	ICDF landfill or CFA landfill based on suitability determination.	NE[d] Nonroutine waste stream
Unused chemicals (recyclable) (see Appendix B) generated in direct connection with implementing the Stage II remedial activities	HW	—	Waste will be tracked as CERCLA wastes and will be disposed in accordance with the Off-Site Rule, if not recycled within 1 year.	NE[d]
Solids from equipment decontamination at Rye Grass Flats (e.g., rags used for cleaning)	CERCLA IW	CERCLA IW accumulation area	ICDF landfill or CFA landfill based on suitability determination.	NE[d]
Solids from equipment decontamination (AOC) generated in direct connection with full-scale ICDF construction activities	Assumed CERCLA HW	SSA	ICDF landfill or CFA landfill based on suitability determination.	

Table 3-1. (continued).

Waste Stream Description	Expected Type(s)[a]	Storage Location[b]	Planned Disposal[c]	Estimated Volume ft^3
Aqueous liquids from equipment decontamination (Rye Grass Flats) generated in direct connection with full-scale ICDF construction activities	CERCLA IW (unless process knowledge suggests otherwise)	CERCLA IW accumulation area, where appropriate	Natural disposal (mud washed from Rye Grass Flats vehicles will be allowed to remain on the ground) and location will be logged for future reference.	NE[d]
Liquids from equipment decontamination (AOC) generated in direct connection with full-scale construction activities	Assumed CERCLA HW	SSA	ICDF evaporation pond.	NE[d]
Routine used parts and equipment (filters, grease cartridges, hydraulic lines, etc.)	Assumed CERCLA HW	SSA	ICDF landfill.	NE[d]
Soil cuttings above the saturation zone	CERCLA conditional industrial waste (CIW)	CERLCLA CIW accumulation area	ICDF landfill or CFA landfill based on suitability determination.	NE[d]
Soil cuttings from the saturation zone	Assumed CERCLA HW or MLLW (pending HWD)	SSA	ICDF evaporation pond or landfill.	2590 ft^3
Development and purge water associated with drilling and sampling activities	Assumed CERCLA HW or MLLW (pending HWD)	SSA or process equipment waste	ICDF evaporation pond or landfill.	7800 ft^3
Contaminated equipment from drilling and sampling activities	Assumed CERCLA HW or MLLW (pending HWD)	SSA	ICDF landfill.	NE[d]
Decontamination fluids and decontamination pad	Assumed CERCLA HW or MLLW (pending HWD)	SSA	ICDF landfill.	NE[d]
PPE from surface drilling operations	CERCLA CIW	accumulation area	ICDF landfill or CFA landfill based on suitability determination.	NE[d]
PPE from drilling operations into saturated interbeds	LLW or MLLW (pending HWD and screening)	SSA	ICDF landfill.	NE[d]
Analytical residue/sample preservative residue	Assumed CERCLA HW	off-site laboratory	Off-site laboratory.	NE[d]
Sample containers	CERCLA CIW or MLLW pending HWD and	accumulation area or SSA	ICDF landfill or CFA landfill based on suitability determination.	NE[d]

Table 3-1. (continued).

Waste Stream Description	Expected Type(s)[a]	Storage Location[b]	Planned Disposal[c]	Estimated Volume ft^3
	screening			
Nonroutine used parts and equipment (tracks, transmissions, engine parts, etc.) generated in direct connection with full-scale ICDF construction activities	CERCLA IW or HW	—	Recycle, return to manufacturer; wastes will be disposed in accordance with the Off-Site Rule, if not recycled within 1 year.	NE[d]
Wastes from clearing and grubbing (AOC) generated in direct connection with implementing full-scale ICDF construction activities	Potentially rad contaminated (<23 pCi/g Cs-137; no further action)	Top soil pile	Reuse within CPP 95 AOC.	NE[d]
Solvents or sealants from construction of crest pad buildings or from placement of ICDF landfill liners and evaporation pond liners	Assumed CERCLA HW (until HW determination made)	SSA pending further determination	Prepare a Waste Notification Form to be included in Appendix A (see appendix for example). Waste Notification will identify the appropriate storage location and planned disposal.	NE[d]
Grease or other lubricants from construction of crest pad buildings	Assumed CERCLA IW (pending waste determination)	CERCLA IW accumulation area	Recycle wastes (disposed in accordance with the Off-Site Rule, if not recycled within 1 year) or disposed at the CFA landfill complex.	NE[d]
Unexpected waste generated in direct connection with full-scale ICDF construction activities	Assumed CERCLA HW (until HW determination made)	SSA pending further determination	Prepare a Waste Notification Form to be included in Appendix A (see appendix for example). Waste Notification will identify the appropriate storage location and planned disposal.	NE[d]

a. Waste type expected based on existing knowledge and assumptions. Final characterization of waste type based on complete HWD and evaluation of data collected (not necessary for nonconditional wastes).

b. A CERCLA IW accumulation area is an area within the work zone where IW is held pending disposal at the INEEL landfill complex at the Central Facilities Area (CFA).

c. If these are contaminated and cannot be disposed by implementing the normal INEEL programs, they will be held in the controlled work zone and then staged in the SSA pending identification of the final disposal pathway.

d. NE—Not estimated due to lack of reasonable basis for an estimate (e.g., unknown maintenance assumptions) or disposal at the INEEL landfill complex at the CFA as IW. However, it is estimated that <2% (~10,000 m^3) of the entire volume of the ICDF will be available for wastes other than CERCLA-contaminated soils.

e. All rags, cloths, etc. used at this site will be new.

4. WASTE MANAGEMENT

Waste resulting from the activities identified in this WMP that requires disposal will be managed and disposed in accordance with applicable or relevant and appropriate requirements (ARARs). Wastes being disposed off-Site will be managed in accordance with the Off-Site Rule. In addition, disposal will be in accordance with the final ROD for OU 3-13 (DOE-ID 1999a), the ARARs identified in the ROD, and this WMP.

4.1 Characterization

4.1.1 Characterization of Construction Waste

Waste generated during the Stage II construction activities of the ICDF landfill and evaporation pond will be identified in accordance with 40 CFR 262.11 as appropriate in addition to screening methods for identifying waste handling requirements. As outlined in Section 3, a preliminary classification has been made of anticipated waste types based on process knowledge regarding the source(s) of the expected waste.

If necessary, wastes will be characterized to support a HWD and provide information for follow-on management. Generally, the HWD will be performed using information in existing Waste Profile Sheets. All appropriate and required documentation of waste characterization and HWD will be completed, if not already prepared. CERCLA waste characterization will evaluate all available information and identify any RCRA waste codes and radionuclide information to facilitate management. Upon the identification of any suspected hazardous waste within the construction area, the soil/media will be segregated and sampled to support the HWD.

During the CERCLA HWD, a radiological screen will be performed with appropriate screening methods. Any waste stream determined through analytical testing to contain radionuclides above specified levels will be classified as LLW or MLLW waste, as applicable. Although the likelihood of encountering Toxic Substances Control Act wastes during construction activities is very low, such wastes will be addressed per 40 CFR 761.1 should they be encountered.

Suspect hazardous or mixed waste will be managed as described in Section 4.3.2.

4.1.2 Characterization of Wastes from Drilling Activities

Waste generated by implementation of the groundwater monitoring plan drilling strategy will be characterized in accordance with 40 CFR 262.11. Because these activities develop detection wells in both the perched water and SRPA, different types of wastes could be generated. It is anticipated that surface cuttings will not generate wastes, because the surface area is considered uncontaminated. However, where drill cuttings, PPE, and other equipment are exposed to aqueous materials from the saturated zones, wastes should be characterized to support a HWD and provide information for follow-on management as provided in Section 4.1.1.

Data from existing wells at INTEC show that perched water and the SRPA may be contaminated with F001, F002, F005, and U134 waste codes and/or radionuclides. Wastes generated during drilling activities will be assessed to determine whether these contaminants are present. A HWD may be necessary, but process knowledge is also appropriate. Any waste stream determined through analytical testing to contain hazardous wastes and/or radionuclides above background levels will be classified as CERCLA HW, MLLW, or LLW. For water, the maximum contaminant levels (MCLs) will be used to

guide waste stream characterization or radionuclides. All water will be segregated and contained pending analytical testing at the laboratory.

4.2 Waste Minimization and Segregation

4.2.1 Waste Minimization

Waste minimization for this project will primarily be achieved through design and planning to ensure efficient operations and avoid the generation of unnecessary wastes. During the pre-job briefing, personnel will be encouraged to institute practices to support waste minimization, and the discussion will emphasize waste reduction philosophies and techniques. These practices may include, but will not be limited to, the following:

- Reusing items when practical
- Segregating reusable items such as PPE and tools
- Substituting recyclable or incinerable items for disposable items
- Minimizing and avoiding use of hazardous chemicals
- Segregating contaminated from uncontaminated waste.

4.2.2 Recycle and Reuse Strategies

This construction activity relies extensively on proper pollution prevention and waste minimization activities. Several waste streams generated during ICDF construction can be reduced or eliminated by reuse and/or recycling. For example, light bulbs, batteries, and tires can be recycled. The INEEL recycling procedure should be incorporated into prejob briefings to explain the INEEL's extensive recycling and reuse program. When materials can be re-used, the INEEL Material Exchange Database evaluates unused or unwanted chemicals, paint, and oils that are still acceptable for use. Personnel should be instructed to first consider recycling or reuse options before disposing of uncontaminated materials as waste. In addition, the INEEL Property Reutilization and Disposal Office performs operations to provide property reuse and disposal services. Property reuse includes INEEL reuse, transfers to other government agencies, or acquisition of excess assets from other government agencies. Disposal includes gifting, donating, or selling excess and surplus property.

Where possible, drill cuttings from nonsaturated zones will be reused in well installation activities or around the construction site. Disposal of reusable or recyclable items should be the last alternative considered.

4.3 On-Site Management and Disposition

The general management approach to be implemented for wastes generated through Stage II full-scale construction activities is on-Site interim storage and disposal (when possible). Wastes generated from the construction activity will be containerized and stored in the controlled work zone or at a CSA.

As previously discussed, predominantly IW is anticipated during construction. IW generated during the construction phase will be managed in accordance with the applicable WAC. All wastes processed for storage or disposal at the INEEL are subject to compliance with the requirements defined by the appropriate WAC of the accepting disposal facility, whether it be the INEEL Landfill Complex at the

CFA, the SSA, or the ICDF landfill or evaporation pond. Although unlikely to be generated, hazardous, mixed, and/or radioactive wastes may be produced.

Hazardous wastes, if any, generated during Stage II full-scale construction activities will be analyzed, segregated, containerized, labeled, and stored in accordance with ARARs. Wastes that are known or suspected of being hazardous or radioactive will be containerized and held in the controlled work zone pending a HWD.

Wastes that are managed on-Site that are not disposed in the ICDF will require a separate suitability determination prior to shipment. Off-Site wastes will be managed in accordance with the Off-Site Rule.

The activities associated with Stage II, as discussed in Section 1, include generation of construction, maintenance, and administrative/support service wastes. Drilling activities—which will be concurrent with construction activities—will generate nonsaturated cuttings and some aqueous wastes. In the following subsections, a brief discussion is provided of the management and disposal of the anticipated waste streams.

4.3.1 Industrial Waste

ID for this project includes paper, sweepings, office waste, and construction and maintenance materials. This waste stream does not include materials that can be recycled or reused. IW will be stored in designated areas at the controlled work zone. This waste can be placed in clear plastic bags and placed in a dumpster for transport to the INEEL Landfill Complex at the CFA for disposal. The WAC for the receiving facility must be met.

Any material that can be reused or recycled will be managed under the waste minimization and recycling strategy outlined in Section 4.2 of this WMP. Disposal will be considered the last option.

4.3.2 Potential Hazardous, Low-Level, or Mixed Wastes

Hazardous, low-level, or mixed wastes are not expected to be generated at the ICDF construction site, since this is a clean construction site. However, construction activities may produce hazardous waste streams resulting from unexpected spills and materials used during the construction project. If they are encountered (as determined by using applicable screening methods or process knowledge), wastes will be containerized as required and stored in a CSA.

In the unlikely event a suspected hazardous or mixed waste stream is generated during construction, the waste will be containerized, marked as a "CERCLA WASTE," and identified as an "unknown pending analysis." The container will be held in a CSA pending a HWD. The HWD must be conducted within six months of staging the container within the CSA. If WGS determines that the waste is hazardous, LLW, or MLLW, it will be labeled as specified in Section 4.5. Before construction close-out, the container will be transported to the SSA (and managed under the ICDF Complex WMP) until final disposal in the ICDF landfill.

4.3.3 Unexpected Waste

The potential exists for the unexpected generation of small quantities of CERCLA waste that is RCRA hazardous; however, only a limited amount is anticipated. In the unlikely event an unexpected waste stream is encountered, WGS will be contacted to perform a HWD and a waste identification form will be prepared. (An example of a waste notification form is attached as Appendix A.) Unwanted,

unused chemicals, paints, and oils that are still acceptable for use will be evaluated for potential use on the INEEL Material Exchange Database to avoid waste generation. In all cases when material can be recycled, that option will be considered and disposal will be considered the last option. Any material that can be recycled or reused will be managed as described in Section 4.2.2.

All potentially hazardous wastes encountered during construction will be managed under Section 4.3.2 of this WMP.

4.4 On-Site Management and Disposition of Drilling Waste Streams

Generation, management, and storage of wastes generated during the implementation of the groundwater monitoring plan are discussed below. Because these activities will sample both perched water and the SRPA, different types of solid and aqueous waste could be generated. Any contaminated wastes are CERCLA wastes and may further require LLW, MLLW, HW, or other designations. Sections 4.4.1 through 4.4.7 describe the management strategy for each category that is anticipated from drilling and installation activities.

4.4.1 Soil Cuttings

Cuttings generated during drilling activities above the saturated zone are not considered contaminated, based on field conditions. Management of soil cuttings will be based on subsurface saturation. Cuttings that do not contain a mixed waste, or have concentrations below the remediation goals or action levels for Group 3 sites, may be used for other needs within the AOC. Because they will be reused, they are not considered wastes. Where cuttings are not reused they will be managed as conditional industrial waste (CIW).

Cuttings from the saturated zone will need to be assessed to determine if they have come into contact with listed wastes. Cuttings from the saturated zone will be contained in appropriate containers such as 55-gallon drums, poly containers, or roll-off boxes during drilling. They will be stored in the SSA for disposal in the ICDF landfill.

4.4.2 Development and Purge Water Associated with Drilling Activities

All purge water will be containerized for storage at the SSA, pending final HWD. This stream has potential designations as LLW or MLLW, based on existing data from the perched water zone and the SRPA. Development and purge water will be placed in a container(s) such as frac tanks or polyethylene containers, labeled, and transported to the SSA for storage. Disposal will be in the ICDF evaporation pond. In the alternative, the waste will be placed in the process equipment waste, with the residue disposed in the ICDF landfill.

4.4.3 Contaminated Equipment from Drilling and Sampling Activities

Contaminated equipment becomes a waste if it cannot be decontaminated. Based on past experience and frequent decontamination, this waste stream is highly unlikely. If generated, contaminated equipment will be managed as LLW or MLLW. Storage of any contaminated equipment will depend on the size of the equipment. Small equipment will be stored in 55-gallon drums or similar containers. Contaminated equipment will be packaged, labeled, and transported to the SSA for storage pending disposal at the ICDF landfill.

4.4.4 Decontamination Fluids

Equipment will be decontaminated at the well site after drilling or sampling is complete. Used decontamination fluids and wastes will be contained within a decontamination pad and collected in containers compatible with the wastes. Decontamination fluids from drilling and sampling activities are anticipated to be MLLW. Containers will be labeled and the wastes will be stored in the SSA until disposal at the ICDF evaporation pond. Upon completion of drilling activities, the decontamination pad will be containerized and placed in the SSA pending disposal in the ICDF landfill.

4.4.5 Personal Protective Equipment

Two streams of PPE will be generated during drilling and sampling activities. PPE associated with surface drilling activities will be classified as CIW because the construction site and drilling locations lack surface contamination. They will be bagged, labeled as CIW, and held in the accumulation area for disposal at the CFA landfill.

Drilling operations into the saturated zone may generate MLLW, since perched water zones and the SRPA are known to contain listed wastes and radionuclides. The PPE used in these operations will be segregated from the CIW PPE and assessed. If they are characterized as MLLW, they will be containerized and held in the SSA until disposal in the ICDF landfill.

4.4.6 Analytical Residue/Sample Preservative Residue

Analytical residue and sample residue will be managed by the off-site laboratory.

4.4.7 Sample containers

Sample containers may be classified as RCRA-listed waste depending on the preservatives used. Sample containers will be emptied and managed according to the empty container rule (40 CFR 261.7). They will be classified as CIW or MLLW, depending on the HWD. Sample containers that become contaminated will be containerized, labeled, and placed in the SSA until disposal in the ICDF landfill.

4.5 Packaging

Most wastes generated from construction activities will not require management under RCRA regulations or the applicable Department of Transportation (DOT) standards. Some wastes generated from drilling activities may require management under RCRA regulations or applicable DOT standards. If aqueous wastes require management under the substantive requirements of the these regulations, packaging of all such wastes will comply with the RCRA regulations found in 40 CFR 264 Subpart I and the applicable DOT regulations found in 49 CFR Part 172.

In the unlikely event that construction waste streams require management under the substantive requirements of these regulations, packaging of all such waste materials will comply with the RCRA regulations found in 40 CFR 264 Subpart I and the applicable DOT regulations found in 49 CFR Part 172.

In all events, packaging and transportation personnel will be consulted to identify appropriate containers for storage.

4.6 Labeling

All waste containers that contain hazardous and/or mixed wastes generated in the performance of the Stage II ICDF construction will be labeled as "CERCLA WASTE" with other appropriate waste characterization information. All CERCLA remediation waste will be labeled and managed according to the ICDF Complex WMP.

4.7 Storage, Record Keeping, and Inspections

4.7.1 Storage

Any low-level, mixed, or hazardous wastes generated during the construction activities outlined will be temporarily managed within the WAG 3 AOC as identified in Section 4.3.2. Wastes will be containerized and managed in the controlled work zone (see Section 4.3.2) until WSG performs a HWD.

The location of the CSA is shown in the ICDF Title II Drawing C-201, "ICDF General Site and Stockpile Plan."

Secondary containment will be provided at the CSA if liquid hazardous or mixed wastes are encountered. This will be accomplished in one of two ways: 1) containers designed and constructed to have built-in secondary containment, or 2) with the placement of an impermeable liner/physical barrier at the site to contain any stored liquid wastes. Nonaqueous wastes will be packaged and containerized to facilitate storage at the SSA. The emergency response procedures established in the "INEEL Emergency Plan/RCRA Contingency Plan, Appendix L20" will be used, if needed.

When construction is completed, hazardous or mixed wastes will be transported to the SSA for interim management. Requirements such as inspections, containers, record keeping, and labeling for the SSA are found in the ICDF Complex WMP.

4.7.2 Record Keeping

As hazardous or mixed wastes are placed into a CSA, a storage area operator will inventory the containers on an activity sheet. Inventory information will consist of the container's INEEL Waste Tracking System barcode, the container type, waste type (including waste codes), and the volume of the waste in the container. Proper storage of wastes will occur to ensure that incompatible waste types are segregated.

4.7.3 Inspections

The CSA will be inspected on a regular basis as required for leaks, spills, aisle space, damaged containers, compatibility of the waste, segregation requirements, appropriate labels, and appropriate signs posted. Inspections will be logged in the storage area logbook. Inspections of the CSA will be performed weekly to ensure protectiveness. If the tanks become necessary, the inspections will be changed to a daily schedule. Weekly inspections will include inspections of the following:

- Containers to ascertain their condition, confirm the presence of required labels, and ensure that incompatible waste is not placed in the area
- Storage area to ascertain any deficiencies (e.g., housekeeping, aisle space, emergency equipment)

- Logbook to ensure inventory records are up to data and that incompatible waste is not placed in the area.

A sample checklist for the inspections is provided in Appendix B. Containers of LLW will be segregated and inspected under applicable substantive requirements.

4.8 Transportation

CERCLA remediation waste generated as a result of the activities associated with the ICDF landfill and evaporation pond construction activities described in this plan will be transported, if necessary, in accordance with substantive requirements identified in the applicable WAC, appropriate DOT regulations, and RCRA regulations. INEEL services personnel will be responsible for shipping all CERCLA remediation waste.

5. REFERENCES

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40 CFR 262.11, 1999, "Standards Applicable to Generators of Hazardous Waste," Section 11, "Hazardous waste determination," *Code of Federal Regulations*, Office of the Federal Register, July 1, 1999.

40 CFR 264, 1986, "Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities," Subpart I, "Environmental Protection Agency," *Code of Federal Regulations*, Office of the Federal Register, May 1, 1986.

40 CFR 761.1, 1999, "Polychlorinated biphenyls (PCBs) Manufacturing, Process, Distribution in Commerce and Use Prohibitions," Section 1, "Applicability," *Code of Federal Regulations*, Office of the Federal Register, July 1, 1999.

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DOE-ID, 2002e, *Waste Acceptance Criteria for ICDF Evaporation Pond*, DOE/ID-10866, Rev. 2, U.S. Department of Energy Idaho Operations Office, Idaho Falls, Idaho, May 2002.

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DOE-ID, 1997, *Comprehensive RI/FS for the Idaho Chemical Processing Plan OU 3-13 at the INEEL – Part A, RI/BRA Report (Final)*, DOE/ID-10534, Rev. 0, U.S. Department of Energy Idaho Operations Office, Idaho Falls, Idaho.

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IDAPA 58.01.05, 1994, "Rules and Standards for Hazardous Waste," Part 009, "Interim Storage Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities," Idaho Administrative Procedures Act, Idaho Department of Environmental Quality (as promulgated February 11, 1994).